EXHIBIT BB

CDC/NHSN Surveillance Definitions for Specific Types of Infections

INTRODUCTION

This chapter contains the CDC/NHSN surveillance definitions and criteria for all specific types of infections. **Comments and reporting instructions that follow the site-specific criteria provide further explanation and are integral to the correct application of the criteria**. This chapter also provides additional required criteria for the specific infection types that constitute organ space surgical site infections (SSI) (e.g., mediastinitis [MED] that may follow a coronary artery bypass graft, intra-abdominal abscess [IAB] after colon surgery, etc.). Refer to Chapter 2 (Identifying HAIs in NHSN) for specific guidance for making HAI determinations.

Infection criteria contained in this chapter may be necessary for determining whether a positive blood culture represents a primary bloodstream infection (BSI) or is secondary to a different type of infection (see Appendix 1 Secondary Bloodstream Infection (BSI) Guide). A BSI that is identified as secondary to another site of infection must meet one of the infection criteria detailed in this chapter and meet other requirements. Secondary BSIs are not reported as Laboratory Confirmed Bloodstream Infections in NHSN, nor can they be associated with the use of a central line.

NOTES:

- Criteria for urinary tract infections (UTI), bloodstream infection (BSI), pneumonia (PNEU) infections, ventilator-associated events (VAE) and surgical site infections (SSI) are no longer included in this chapter. For those criteria, see individual protocol chapters.

- Organisms belonging to the following genera cannot be used to meet any NHSN definition: *Blastomyces, Histoplasma, Coccidioides, Paracoccidioides, Cryptococcus and Pneumocystis*. These organisms are typically causes of community-associated infections and are rarely known to cause healthcare-associated infections, and therefore are excluded.

- A **matching organism** is defined as one of the following:

    1. If genus and species are identified in both cultures, they must be the same.
        a. **Example:** A blood culture reported as *Enterobacter cloacae* and an intraabdominal specimen of *Enterobacter cloacae* are matching organisms.
        b. **Example:** A blood culture reported as *Enterobacter cloacae* and an intraabdominal specimen of *Enterobacter aerogenes* are NOT matching organisms as the species are different.

    2. If the organism is less definitively identified in one culture than the other, the identifications must be complementary.

        a. **Example:** A surgical wound growing *Pseudomonas* spp. and a blood culture growing *Pseudomonas aeruginosa* are considered a match at the genus level and therefore the BSI is reported as secondary to the SSI.

b. **Example:** A blood culture reported as *Candida albicans* and a culture from a decubitus reported as yeast are considered to have matching organisms because the organisms are complementary, i.e. Candida is a type of yeast.

3. Antibiograms of the blood and potential primary site isolates do not have to match.

CRITERIA FOR SPECIFIC TYPES OF INFECTION

Infection criteria have been grouped into 14 major types with some further categorized into specific infections. For example, there are three specific types of central nervous system infections (intracranial infection, meningitis or ventriculitis, and spinal abscess without meningitis) that are grouped under the major type of CNS–Central Nervous System.

The specific and major types of infection used in NHSN and their abbreviated codes are listed in alphabetical order, by major type code and the criteria for each of the specific types of infection follow it.

BJ-BONE AND JOINT INFECTION

BONE-Osteomyelitis

Osteomyelitis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from bone by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has evidence of osteomyelitis on gross anatomic or histopathologic exam.
3. Patient has at least ***two*** of the following localized signs or symptoms: fever (>38.0°C), swelling*, pain or tenderness*, heat*, or drainage*

   And at least *one* of the following:
   a. organisms identified from blood by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) in a patient with imaging test evidence suggestive of infection (e.g., x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for osteomyelitis).
   b. imaging test evidence suggestive of infection (e.g., x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for osteomyelitis).

** With no other recognized cause*

Reporting instruction
Report mediastinitis following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE.

DISC-Disc space infection

Vertebral disc space infection must meet at least **one** of the following criteria:

1. Patient has organisms identified from vertebral disc space by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has evidence of vertebral disc space infection on gross anatomic or histopathologic exam.
3. Patient has at least ***one*** of the following: fever (>38.0°C), pain at the involved vertebral disc space*

   And at least *one* of the following:
   a. organisms identified from blood by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) in a patient with imaging test evidence suggestive of infection (e.g., x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for vertebral disc space infection).
   b. imaging test evidence suggestive of infection (e.g., x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for vertebral disc space infection).

** With no other recognized cause*

JNT-Joint or bursa infection (not for use after HPRO or KPRO procedures)

Joint or bursa infections must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from joint fluid or synovial biopsy by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has evidence of joint or bursa infection on gross anatomic or histopathologic exam.
3. Patient has at least ***two*** of the following signs or symptoms with no other recognized cause: swelling, pain or tenderness, heat, evidence of effusion, or limitation of motion.
   And at least *one* of the following:
   a. elevated joint fluid white blood cell count (per reporting laboratory's reference range) OR positive leukocyte esterase test strip of joint fluid
   b. organisms and white blood cells seen on Gram stain of joint fluid
   c. organisms identified from blood by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   d. imaging test evidence suggestive of infection (e.g., x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for joint or bursa infection).

PJI – Periprosthetic Joint Infection (following HPRO and KPRO only)

Joint or bursa infections must meet at least ***one*** of the following criteria:

1. Two positive periprosthetic specimens (*tissue or fluid*) with at least one matching organism, identified by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. A sinus tract communicating with the joint.
3. Having ***three*** of the following minor criteria:
   a. elevated serum C-reactive protein (CRP; >100 mg/L) ***and*** erythrocyte sedimentation rate (ESR; >30 mm/hr.)
   b. elevated synovial fluid white blood cell (WBC; >10,000 cells/μL) count *OR* ++ *(or greater)* change on leukocyte esterase test strip of synovial fluid
   c. elevated synovial fluid polymorphonuclear neutrophil percentage (PMN% >90%)
   d. positive histological analysis of periprosthetic tissue (>5 neutrophils (PMNs) per high power field)
   e. organisms identified from a single positive periprosthetic (*tissue or fluid*) by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

COMMENTS

- A matching organism is defined on page 17 -1.Organisms identified from hip or knee hardware can be used to meet criterion 1.
- A sinus tract is defined as a narrow opening or passageway underneath the skin that can extend in any direction through soft tissue and results in dead space with potential for abscess formation.
- The NHSN definition of PJI is closely adapted from the Musculoskeletal Infection Society's (MSIS's) definition of PJI (*Proceedings of the International Consensus Meeting on Periprosthetic Joint Infection, 2013*).
- The standard laboratory cutoff values in criteria 3a - 3d are provided by NHSN for HPRO and KPRO SSI surveillance purposes only. The NHSN laboratory cutoffs are not intended to guide clinicians in the actual clinical diagnosis and management of acute or chronic PJI. Clinicians should refer to the MSIS consensus definition for clinical use.

CNS-CENTRAL NERVOUS SYSTEM INFECTION

IC-Intracranial infection (brain abscess, subdural or epidural infection, encephalitis)

Intracranial infection must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from brain tissue or dura by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has an abscess or evidence of intracranial infection on gross anatomic or histopathologic exam.
3. Patient has at least ***two*** of the following signs or symptoms: headache*, dizziness*, fever (>38.0°C), localizing neurologic signs*, changing level of consciousness*, or confusion*
   And at least *one* of the following:
   a. organisms seen on microscopic examination of brain or abscess tissue obtained by needle aspiration or during an invasive procedure or autopsy
   b. imaging test evidence suggestive of infection, (e.g., ultrasound, CT scan MRI, radionuclide brain scan, or arteriogram), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for intracranial infection).
   c. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism
4. Patient ≤1 year of age has at least ***two*** of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea*, bradycardia*, localizing neurologic signs*, or changing level of consciousness* (e.g., irritability, poor feeding, lethargy)
   And at least *one* of the following:
   a. organisms seen on microscopic examination of brain or abscess tissue obtained by needle aspiration or during an invasive procedure or autopsy
   b. imaging test evidence suggestive of infection, (e.g., ultrasound, CT scan, MRI, radionuclide brain scan, or arteriogram), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for intracranial infection).
   c. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

** With no other recognized cause*

Reporting instructions

- Report as MEN if meningitis (MEN) and encephalitis (IC) are present together.
- Report as IC if meningitis (MEN) and a brain abscess (IC) are present together after operation.
- Report as SA if meningitis (MEN) and spinal abscess (SA) are present together after an operation.

MEN-Meningitis or ventriculitis

Meningitis or ventriculitis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from cerebrospinal fluid (CSF) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least ***two*** of the following:
   i. fever (>38.0°C) or headache (Note: Elements of "i" alone may not be used to meet the two required elements)
   ii. meningeal sign(s)*
   iii. cranial nerve sign(s)*

   And at least *one* of the following:
   a. increased white cells, elevated protein, and decreased glucose in CSF (per reporting laboratory's reference range)
   b. organisms seen on Gram stain of CSF
   c. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)
   d. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism
3. Patient ≤1 year of age has at least ***two*** of the following elements:
   i. Fever (>38.0°C), hypothermia (<36.0°C$^{\pm}$), apnea, bradycardia, or irritability (Note: Elements of "i" alone may not be used to meet the required two elements).
   ii. meningeal signs*
   iii. cranial nerve signs*

   And at least *one* of the following:
   a. increased white cells, elevated protein, and decreased glucose in CSF (per reporting laboratory's reference range)
   b. organisms seen on Gram stain of CSF
   c. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)
   d. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

** With no other recognized cause*

Reporting instructions

- Report meningitis in the newborn as healthcare associated unless there is compelling evidence indicating the meningitis was acquired transplacentally (i.e., unless it was apparent on the day of birth or the next day).

- Report CSF shunt infection as SSI-MEN if it occurs within 90 days of placement; if later or after manipulation/access, it is considered CNS-MEN and is not reportable under this module.
- Report as MEN if meningitis (MEN) and encephalitis (IC) are present together.
- Report as IC if meningitis (MEN) and a brain abscess (IC) are present together after operation.
- Report as SA if meningitis and spinal abscess (SA) are present together after an operation.

SA-Spinal abscess without meningitis

An abscess of the spinal epidural or subdural space, without involvement of the cerebrospinal fluid or adjacent bone structures, must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from abscess in the spinal epidural or subdural space by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has an abscess in the spinal epidural or subdural space on gross anatomic or histopathologic exam.
3. Patient has at least ***one*** of the following localized signs or symptoms: fever (>38.0°C), back pain* or tenderness*, radiculitis*, paraparesis*, or paraplegia*
   And at least *one* of the following:
   a. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) in a patient with imaging test evidence of spinal abscess.
   b. imaging test evidence of a spinal abscess (e.g., myelography, ultrasound, CT scan, MRI, or other scans [gallium, technetium, etc.]).

** With no other recognized cause*

Reporting instructions

- Report as IC if meningitis (MEN) and a brain abscess (IC) are present together after operation.
- Report as SA if meningitis (MEN) and spinal abscess (SA) are present together after an operation.

CVS-CARDIOVASCULAR SYSTEM INFECTION

CARD-Myocarditis or pericarditis

Myocarditis or pericarditis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from pericardial tissue or fluid by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least ***two*** of the following signs or symptoms: fever (>38.0°C), chest pain*, paradoxical pulse*, or increased heart size*
   And at least *one* of the following:
   a. abnormal EKG consistent with myocarditis or pericarditis
   b. evidence of myocarditis or pericarditis on histologic exam of heart tissue

c. 4-fold rise in paired sera from IgG antibody titer
d. pericardial effusion identified by echocardiogram, CT scan, MRI, or angiography

3. Patient ≤1 year of age has at least ***two*** of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea*, bradycardia*, paradoxical pulse*, or increased heart size*
   And at least *one* of the following:
   a. abnormal EKG consistent with myocarditis or pericarditis
   b. histologic examination of heart tissue shows evidence of myocarditis or pericarditis
   c. 4-fold rise in paired sera from IgG antibody titer
   d. pericardial effusion identified by echocardiogram, CT scan, MRI, or angiography

* *With no other recognized cause*

Comment:

- Most cases of post cardiac surgery or post myocardial infarction pericarditis are not infectious.

ENDO-Endocarditis

Endocarditis of a natural or prosthetic heart valve must meet at least ***one*** of the following criteria:

1. Organisms identified from cardiac vegetation*, embolized vegetation (e.g., solid organ abscess) documented as originating from cardiac source, or intracardiac abscess by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Organisms seen on histopathologic examination of cardiac vegetation, embolized vegetation (e.g., solid organ abscess) documented as originating from cardiac source, or intracardiac abscess.
3. Endocarditis seen on histopathologic examination of cardiac vegetation or intracardiac abscess.
4. At least ***one*** of the following echocardiographic evidence of endocarditis*:
   i. vegetation on cardiac valve or supporting structures
   ii. intracardiac abscess
   iii. new partial dehiscence of prosthetic valve
   And at least *one* of the following:
   a. typical infectious endocarditis organisms † (i.e., Viridans group streptococci, *Streptococcus bovis*, *Haemophilus* spp., *Actinobacillus actinomycetemcomitans*, *Cardiobacterium hominis*, *Eikenella corrodens*, *Kingella* spp., *Staphylococcus aureus*) identified from ≥2 blood collections drawn on separate occasions (on same or consecutive days) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)
   b. *Coxiella burnetii* identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) or identified by anti-phase I IgG antibody titer >1:800
5. At least ***three*** of the following:
   i. prior endocarditis, prosthetic valve, uncorrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use
   ii. fever (>38.0°C)
   iii. vascular phenomena: major arterial emboli (i.e., embolic stroke, renal infarct, splenic infarct or abscess, digital ischemic/gangrene from embolic source), septic pulmonary

infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented

iv. immunologic phenomena: glomuleronephritis (documented or chart, or white cell or red blood cell casts on urinalysis), Osler's nodes, Roth's spots, or positive rheumatoid factor.

And at least *one* of the following:

a. typical infectious endocarditis organisms (i.e., Viridans group streptococci, *Streptococcus bovis*, *Haemophilus* spp., *Actinobacillus actinomycetemcomitans*, *Cardiobacterium hominis*, *Eikenella corrodens*, *Kingella* spp., *Staphylococcus aureus*) identified from ≥2 blood collections drawn on separate occasions (on same or consecutive days) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)

b. *Coxiella burnetii* identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)or identified by anti-phase I IgG antibody titer >1:800

6. At least ***one*** of the following†:
   i. vegetation on cardiac valve or supporting structures seen on echocardiogram
   ii. intracardiac abscess seen on echocardiogram
   iii. new partial dehiscence of prosthetic valve seen on echocardiogram

   And at least *three* of the following:

   a. prior endocarditis, prosthetic valve, uncorrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use
   b. fever (>38.0°C)
   c. vascular phenomena: major arterial emboli (i.e., embolic stroke, renal infarct, splenic infarct or abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented
   d. immunologic phenomena: glomuleronephritis (documented in chart, or white cell or red blood cell casts on urinalysis), Osler's nodes, Roth's spots, or positive rheumatoid factor
   e. identification of an organism from the blood by at least ***one*** of the following methods:
      - recognized pathogen identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
      - same common commensal organism identified from ≥2 blood collections drawn on separate occasions (on same or consecutive days) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)

7. All of the following criteria:
   a. prior endocarditis, prosthetic valve, uncorrected congenital heart disease, history of rheumatic heart disease, hypertrophic obstructive cardiomyopathy, or known IV drug use
   b. fever (>38.0°C)
   c. vascular phenomena: major arterial emboli (i.e., embolic stroke, renal infarct, splenic infarct or abscess, digital ischemic/gangrene from embolic source), septic pulmonary infarcts, mycotic

aneurysm (documented by imaging, seen in surgery, or described in gross pathological specimen), intracranial hemorrhage, conjunctival hemorrhages, or Janeway's lesions documented

d. immunologic phenomena: glomuleronephritis (documented or chart, or white cell or red blood cell casts on urinalysis), Osler's nodes, Roth's spots, or positive rheumatoid factor
e. identification of an organism from the blood by at least ***one*** of the following methods:
   - recognized pathogen identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   - same common commensal organism identified from ≥2 blood collections drawn on separate occasions (on same or consecutive days) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST)

*"Cardiac vegetation" includes vegetation on a pacemaker/ defibrillator lead.

† Which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for endocarditis).

MED-Mediastinitis

Mediastinitis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from mediastinal tissue or fluid by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has evidence of mediastinitis on gross anatomic or histopathologic exam.
3. Patient has at least ***one*** of the following signs or symptoms: fever (>38.0°C), chest pain*, or sternal instability*
   And at least *one* of the following:
   a. purulent drainage from mediastinal area
   b. mediastinal widening on imaging test
4. Patient ≤1 year of age has at least ***one*** of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea*, bradycardia*, or sternal instability*
   And at least *one* of the following:
   a. purulent drainage from mediastinal area
   b. mediastinal widening on imaging test

** With no other recognized cause*

Reporting instruction

- Mediastinal space is the area under the sternum and in front of the vertebral column, containing the heart and its large vessels, trachea, esophagus, thymus, lymph nodes, and other structures and tissues. It is divided into anterior, middle, posterior, and superior regions.
- Report mediastinitis (MED) following cardiac surgery that is accompanied by osteomyelitis as SSI-MED rather than SSI-BONE.

VASC-Arterial or venous infection

Note: If a patient meets the criteria for an LCBI in the presence of an intravascular infection report as an LCBI not as a VASC.

Arterial or venous infection must meet at least ***one*** of the following criteria:

1. Patient has organisms from extracted arteries or veins identified by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has evidence of arterial or venous infection on gross anatomic or histopathologic exam.
3. Patient has at least ***one*** of the following signs or symptoms: fever (>38.0°C), pain*, erythema*, or heat at involved vascular site*
   AND
   More than 15 colonies cultured from intravascular cannula tip using semiquantitative culture method.
4. Patient has purulent drainage at involved vascular site.
5. Patient ≤1 year of age has at least ***one*** of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea*, bradycardia*, lethargy*, pain*, erythema*, or heat at involved vascular site*
   AND
   More than 15 colonies cultured from intravascular cannula tip using semiquantitative culture method.

* *With no other recognized cause*

Reporting instructions

- Report infections of an arteriovenous graft, shunt, fistula or intravascular cannulation site without organisms identified from blood as CVS-VASC.
- Report intravascular infections with organisms identified from the blood and meeting the LCBI criteria, as BSI-LCBI. However, if **BOTH** of the following are present at the site of an arteriovenous fistula, arteriovenous shunt, peripheral IV, or non-accessed central line, within the Infection Window Period, mark the data field for risk factor "Central line" as "No":
  - Pus at the site

  AND
  - Positive site culture with at least one matching organism to the positive blood culture
- Report Organ Space VASC infections as an SSI and not an LCBI when you have a SSI with secondary BSI.

EENT-Eye, ear, nose throat, or mouth infection

CONJ-Conjunctivitis

Conjunctivitis must meet at least ***one*** of the following criteria:

1. Patient has organism(s) or virus identified from conjunctival scraping or purulent exudate obtained from the conjunctiva or contiguous tissues, (e.g., eyelid, cornea, meibomian glands, or lacrimal glands) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has pain or redness of conjunctiva or around eye.
   And at least *one* of the following:
   a. WBCs and organisms seen on Gram stain of exudate
   b. purulent exudate
   c. multinucleated giant cells seen on microscopic examination of conjunctival exudate or scrapings
   d. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

Reporting instructions

- Report other infections of the eye as EYE.
- Do not report chemical conjunctivitis, caused by silver nitrate ($AgNO_3$), as a healthcare–associated infection.
- Do not report a separate case of conjunctivitis (CONJ) that occurs as a part of another viral illness (e.g., UR).

EAR-Ear, mastoid infection

Ear and mastoid infections must meet at least ***one*** of the following criteria:

Otitis externa must meet at least ***one*** of the following criteria:

1. Patient has organism(s) identified from purulent drainage from ear canal by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least ***one*** of the following localized signs or symptoms: fever (>38.0°C), pain*, erythema*, ***and*** organism(s) seen on Gram stain of purulent drainage from ear canal.

Otitis media must meet at least ***one*** of the following criteria:

3. Patient has organism(s) identified from fluid from middle ear obtained during an invasive procedure (e.g., tympanocentesis) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
4. Patient has at least ***two*** of the following localized signs or symptoms: fever (>38.0°C), pain *, inflammation*, retraction* or decreased mobility of eardrum*, or fluid behind eardrum*.

Otitis interna must meet at least ***one*** of the following criteria:

5. Patient has organism(s) identified from fluid from inner ear obtained during an invasive procedure by a culture or non-culture based microbiologic testing method which is performed

for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

6. Patient has a physician diagnosis of inner ear infection.

Mastoiditis must meet at least ***one*** of the following criteria:

7. Patient has organism(s) identified from fluid or tissue from mastoid by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
8. Patient has at least ***two*** of the following localized signs or symptoms: fever (>38.0°C), pain or tenderness*, post auricular swelling*, erythema*, headache*, or facial paralysis*

   And at least *one* of the following:

   a. organism(s) seen on Gram stain of fluid or tissue from mastoid
   b. imaging test evidence suggestive of infection (e.g., CT scan), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for mastoid infection).

** With no other recognized cause*

EYE-Eye infection, other than conjunctivitis

An infection of the eye, other than conjunctivitis, must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from anterior or posterior chamber or vitreous fluid by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least *two* of the following signs or symptoms with no other recognized cause: eye pain, visual disturbance, or hypopyon

   AND

   physician initiates antimicrobial therapy within ***two*** days of onset or worsening of symptoms

ORAL-Oral cavity infection (mouth, tongue, or gums)

Oral cavity infections must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from abscess or purulent material from tissues of oral cavity by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has an abscess or other evidence of oral cavity infection found on invasive procedure, gross anatomic exam, or histopathologic exam.
3. Patient has at least ***one*** of the following signs or symptoms with no other recognized cause: ulceration, raised white patches on inflamed mucosa, or plaques on oral mucosa

   And at least *one* of the following:

   a. organisms or virus identified by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   b. multinucleated giant cells seen on microscopic examination of mucosal scrapings or exudate
   c. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

d. fungal elements seen on microscopic exam of mucosal scrapings or exudate (e.g., Gram stain, KOH)
e. physician initiates antimicrobial therapy within 2 days of onset or worsening of symptoms

Reporting instruction

- Report healthcare–associated primary herpes simplex infections of the oral cavity as ORAL; recurrent herpes infections are not healthcare associated.

SINU-Sinusitis

Sinusitis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from fluid or tissue from the sinus cavity obtained during an invasive procedure by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least ***one*** of the following signs or symptoms: fever (>38.0°C), pain or tenderness over the involved sinus*, headache*, purulent exudate*, or nasal obstruction*
   AND
   Imaging test evidence of sinusitis (e.g., x-ray, CT scan)

** With no other recognized cause*

UR-Upper respiratory tract infection, pharyngitis, laryngitis, epiglottitis

Upper respiratory tract infections must meet at least ***one*** of the following criteria:

1. Patient has at least ***two*** of the following signs or symptoms: fever (>38.0°C), erythema of pharynx*, sore throat*, cough*, hoarseness*, or purulent exudate in throat*
   And at least *one* of the following:
   a. organisms identified from upper respiratory site [i.e. larynx, pharynx, and epiglottis] by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). Note: excludes sputum because sputum is not an upper respiratory specimen.
   b. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism
   c. physician diagnosis of an upper respiratory infection
2. Patient has an abscess on gross anatomical or histopathologic exam or imaging test.
3. Patient ≤1 year of age has at least ***two*** of the following signs or symptoms: fever (>38.0°C), hypothermia (<36.0°C), apnea*, bradycardia*, nasal discharge*, or purulent exudate in throat*
   And at least *one* of the following:
   a. organisms identified from upper respiratory site [i.e. larynx, pharynx, and epiglottis] by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). Note: excludes sputum because sputum is not an upper respiratory specimen.
   b. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism
   c. physician diagnosis of an upper respiratory infection

** With no other recognized cause*

GI-GASTROINTESTINAL SYSTEM INFECTION

CDI-*Clostridium difficile* Infection

Clostridium difficile infection must meet at least ***one*** of the following criteria:

1. Positive test for toxin-producing *C. difficile* on an unformed stool specimen (conforms to the shape of the container).[1,2] (see Reporting instructions)
2. Patient has evidence of pseudomembranous colitis on gross anatomic (includes endoscopic exams) or histopathologic exam.

Reporting instructions

- The date of event for CDI criterion 1, will always be the specimen collection date of the unformed stool, i.e., not the date of onset of unformed stool.
- Report the CDI and the GE or GIT if additional enteric organisms are identified and criteria are met for GE or GIT.
- Report each new GI-CDI according to the Repeat Infection Timeframe (RIT) rule for HAIs (see NHSN HAI definitions in Chapter 2 for further details and guidance).
- CDI laboratory-identified event (LabID Event) categorizations (e.g., recurrent CDI assay, incident CDI assay, healthcare facility-onset, community-onset, community-onset healthcare facility-associated) do **not** apply to HAIs; including *C. difficile* associated gastrointestinal infections (GI-CDI).
- Cohen SH, Gerding DN, Johnson S, Kelly CP, Loo VG, McDonald LC, et al. Clinical practice guidelines for Clostridium difficile infection in adults: 2010 update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). *Infection Control and Hospital Epidemiology* 2010; 31:431-455.

GE-Gastroenteritis (excluding *C. difficile* infections)

Gastroenteritis must meet at least ***one*** of the following criteria:

1. Patient has an acute onset of diarrhea (liquid stools for > 12 hours) and no likely noninfectious cause (e.g., diagnostic tests, therapeutic regimen other than antimicrobial agents, acute exacerbation of a chronic condition, or psychological stress information).
2. Patient has at least ***two*** of the following signs or symptoms: nausea*, vomiting*, abdominal pain*, fever (>38.0°C), or headache*
   And at least *one* of the following:
   a. an enteric pathogen is identified from stool or rectal swab by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   b. an enteric pathogen is detected by microscopy on stool
   c. an enteric pathogen is detected by antigen or antibody assay on blood or feces
   d. evidence of an enteric pathogen is detected by cytopathic changes in tissue culture on stool
   e. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

** With no other recognized cause*

Reporting instruction

- The reference to "enteric pathogens" describes pathogens that are not considered to be normal flora of the intestinal tract. Enteric pathogens identified on culture or with the use of other diagnostic laboratory tests include but are not limited to *Salmonella, Shigella, Yersinia, Campylobacter, Giardia.*
- Report only GI-GIT using the event date as that of GI-GIT if the patient meets criteria for both GI-GE and GI-GIT.

GIT-Gastrointestinal tract infection (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis, appendicitis, and *C. difficile* infection

Gastrointestinal tract infections, excluding, gastroenteritis and appendicitis, must meet at least ***one*** of the following criteria:

1. Patient has an abscess or other evidence of infection on gross anatomic or histopathologic exam of gastrointestinal tract.
2. Patient has at least ***two*** of the following localized signs or symptoms compatible with infection of the organ or tissue involved: fever (>38.0°C), nausea*, vomiting*, pain*or tenderness*, odynophagia*, or dysphagia*
   And at least *one* of the following:
   a. organisms identified from drainage or tissue obtained during an invasive procedure or from drainage from an aseptically-placed drain by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   b. organisms seen on Gram stain or fungal elements seen on KOH stain or multinucleated giant cells seen on microscopic examination of drainage or tissue obtained during an invasive procedure or from drainage from an aseptically-placed drain
   c. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) in a patient with imaging test evidence suggestive of gastrointestinal infection (e.g., MRI, CT Scan), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for gastrointestinal tract infection).
   d. imaging test evidence suggestive of infection (e.g., MRI, CT scan), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for gastrointestinal tract infection).
   e. evidence of infection on endoscopic examination (e.g., Candida esophagitis, proctitis, etc.)

** With no other recognized cause*

Reporting instruction

- Report only GI-GIT using the event date as that of GI-GIT if the patient meets criteria for both GI-GE and GI-GIT

HEP-Hepatitis (acute)

Hepatitis must meet the following criterion:

1. Patient has at least ***two*** of the following signs or symptoms: fever (>38.0°C), anorexia*, nausea*, vomiting*, abdominal pain*, jaundice*, or history of transfusion within the previous three months
   And at least *one* of the following:
   a. positive laboratory test for acute hepatitis A, hepatitis B, hepatitis C, or delta hepatitis and duration of hospital stay consistent with healthcare acquisition
   b. cytomegalovirus (CMV) detected in urine or oropharyngeal secretions

** With no other recognized cause*

Reporting instructions

- Do not report hepatitis or jaundice of noninfectious origin (alpha-1 antitrypsin deficiency, etc.).
- Do not report hepatitis or jaundice that result from exposure to hepatotoxins (alcoholic or acetaminophen- induced hepatitis, etc.).
- Do not report hepatitis or jaundice that result from biliary obstruction (cholecystitis).

IAB-Intraabdominal infection, not specified elsewhere including gallbladder, bile ducts, liver (excluding viral hepatitis), spleen, pancreas, peritoneum, subphrenic or subdiaphragmatic space, or other intraabdominal tissue or area not specified elsewhere

Intraabdominal infections must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from an abscess or from purulent material from intraabdominal space by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has:
   a. abscess or other evidence of intraabdominal infection on gross anatomic or histopathologic exam
   b. abscess or other evidence of intraabdominal infection on gross anatomic or histopathologic exam **and** organism(s) identified from blood by a culture or non-culture based microbiologic testing method, which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). The organism(s) identified in the blood must contain at least one of the following organisms: *Bacteroides* spp., *Candida* spp., *Clostridium* spp., *Enterococcus* spp., *Fusobacterium* spp., *Peptostreptococcus* spp., *Prevotella* spp., *Veillonella* spp., or Enterobacteriaceae
3. Patient has at least ***two*** of the following signs or symptoms: fever (>38.0°C), nausea*, vomiting*, abdominal pain*, or jaundice*
   And at least *one* of the following:
   a. organisms seen on Gram stain or identified from drainage or tissue obtained during invasive procedure or from an aseptically-placed drain (e.g., closed suction drainage system, open drain, T-tube drain, CT guided drainage)by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

b. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) and imaging test evidence suggestive of infection (e.g., ultrasound, CT scan, MRI, radiolabel scans [gallium, technetium, etc.] or on abdominal x-ray), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for intraabdominal infection). The organism(s) identified in the blood must contain at least one of the following organisms: *Bacteroides* spp., *Candida* spp., *Clostridium* spp., *Enterococcus* spp., *Fusobacterium* spp., *Peptostreptococcus* spp., *Prevotella* spp., *Veillonella* spp., or Enterobacteriaceae*

** With no other recognized cause*

Reporting instruction

- Use criterion 1 for reporting organisms identified from purulent or abscess material in the intraabdominal space (e.g., JP or CT guided drainage of pus/abscess can be applied to this criteria)
- Use criterion 3a for reporting organisms identified from the intraabdominal space that were not from an abscess or purulent material.
- Do not report pancreatitis (an inflammatory syndrome characterized by abdominal pain, nausea, and vomiting associated with high serum levels of pancreatic enzymes) unless it is determined to be infectious in origin.

NEC-Necrotizing enterocolitis

Necrotizing enterocolitis in infants (≤1 year of age) must meet one of the following criteria:

1. Infant has at least ***one*** of the clinical and ***one*** of the imaging test findings from the lists below:
   At least *one* clinical sign:
   a. bilious aspirate** (see **Note**)
   b. vomiting
   c. abdominal distention
   d. occult or gross blood in stools (with no rectal fissure)
   And at least *one* imaging test finding:
   a. Pneumatosis intestinalis
   b. Portal venous gas (Hepatobiliary gas)
   c. Pneumoperitoneum
   ****Note:** Bilious aspirate as a result of a transpyloric placement of a nasogastric tube should be excluded
2. Surgical NEC: Infant has at least ***one*** of the following surgical findings:
   a. surgical evidence of extensive bowel necrosis (>2 cm of bowel affected)
   b. surgical evidence of pneumatosis intestinalis with or without intestinal perforation

Reporting instruction

- Necrotizing enterocolitis (NEC) criteria include neither a site specific specimen nor organism identified from blood specimen, however an **exception** for assigning a BSI secondary to NEC is provided. A BSI is considered secondary to NEC if the patient meets one of the two NEC

criteria **AND** an organism identified from blood specimen collected during the secondary BSI attribution period is an LCBI pathogen, or the same common commensal is identified from two or more blood specimens drawn on separate occasions collected on the same or consecutive days.

LRI- LOWER RESPIRATORY INFECTION, OTHER THAN PNEUMONIA

LUNG-Other infection of the lower respiratory tract

Other infections of the lower respiratory tract must meet at least ***one*** of the following criteria:

1. Patient has organisms seen on Gram stain or identified from lung tissue or pleural fluid (when pleural fluid was obtained during thoracentesis or initial placement of chest tube and NOT from an indwelling chest tube) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). .
2. Patient has a lung abscess or other evidence of infection (e.g., empyema) on gross anatomic or histopathologic exam.
3. Patient has imaging test evidence of abscess or infection.

Reporting instruction

- If patient meets LUNG and PNEU report as PNEU only, unless the LUNG is a surgical site organ/space infection, in which case, report both PNEU and SSI-LUNG.

REPR-REPRODUCTIVE TRACT INFECTION

EMET-Endometritis

Endometritis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from endometrial fluid or tissue (including amniotic fluid) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has at least ***two*** of the following signs or symptoms: fever (>38.0°C), pain or tenderness (uterine or abdominal)*, or purulent drainage from uterus.

** With no other recognized cause*

Reporting instructions

- Do not report an HAI chorioamnionitis as EMET (see OREP).
- Do not report subsequent postpartum endometritis after a vaginal delivery as an HAI if a patient is admitted with POA chorioamnionitis (OREP). (See next bullet for endometritis following a C-section).
- Report as an organ space SSI-EMET if a C-section was performed on a patient with chorioamnionitis, and the patient later develops endometritis.

EPIS-Episiotomy infection

Episiotomy infections must meet at least ***one*** of the following criteria:

1. Postvaginal delivery patient has purulent drainage from the episiotomy.
2. Postvaginal delivery patient has an episiotomy abscess.

Comment:
Episiotomy is not considered an operative procedure in NHSN.

OREP-Other infection of the male or female reproductive tract (epididymis, testes, prostate, vagina, ovaries, uterus, chorioamnionitis, or other deep pelvic tissues, excluding endometritis or vaginal cuff infections)

Other infections of the male or female reproductive tract must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from tissue or fluid from affected site (excludes urine) by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has an abscess or other evidence of infection of affected site on gross anatomic or histopathologic exam.
3. Patient has suspected infection of one of the listed OREP sites and ***two*** of the following localized signs or symptoms: fever (>38.0°C), nausea*, vomiting*, pain or tenderness*, or dysuria*
   And at least *one* of the following:
   a. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   b. physician initiates antimicrobial therapy within ***two*** days of onset or worsening of symptoms

** With no other recognized cause*

Reporting instructions

- Report endometritis as EMET.
- Report vaginal cuff infections as VCUF.
- If patient has epididymitis, prostatitis, or orchitis and meets OREP criteria, and they also meet UTI criteria, report UTI only, unless the OREP is a surgical site organ/space infection, in which case, only OREP should be reported.

VCUF-Vaginal cuff infection

Vaginal cuff infections must meet at least ***one*** of the following criteria:

1. Post hysterectomy patient has purulent drainage from the vaginal cuff on gross anatomic exam.
2. Post hysterectomy patient has an abscess at the vaginal cuff on gross anatomic exam.
3. Post hysterectomy patient has pathogens identified from fluid or tissue obtained from the vaginal cuff by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

Reporting instruction

- Report vaginal cuff infections as SSI-VCUF.

SST-SKIN AND SOFT TISSUE INFECTION

BRST-Breast abscess or mastitis

A breast abscess or mastitis must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from affected breast tissue or fluid obtained by invasive procedure by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has a breast abscess or other evidence of infection on gross anatomic or histopathologic exam.
3. Patient has fever (>38.0°C) and local inflammation of the breast,
   AND
   Physician initiates antimicrobial therapy within 2 days of onset or worsening of symptoms.

Reporting instruction

- For SSI after a BRST procedure: if the infection is in the subcutaneous region report as a superficial incisional SSI, and if the infection involves the muscle/fascial level report as a deep incisional SSI.

BURN-Burn infection

Burn infections must meet the following criteria:

1. Patient has a change in burn wound appearance or character, such as rapid eschar separation, or dark brown, black, or violaceous discoloration of the eschar,
   AND
   Organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

CIRC-Newborn circumcision infection

Circumcision infection in a newborn (≤30 days old) must meet at least ***one*** of the following criteria:

1. Newborn has purulent drainage from circumcision site.
2. Newborn has at least ***one*** of the following signs or symptoms with no other recognized cause at circumcision site: erythema, swelling, or tenderness,
   AND
   Pathogen identified from circumcision site by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
3. Newborn has at least ***one*** of the following signs or symptoms with no other recognized cause at circumcision site: erythema, swelling, or tenderness,
   AND
   Common commensal is identified from circumcision site by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). ,
   AND
   Physician initiates antimicrobial therapy within ***two*** days on onset or worsening of symptoms.

DECU-Decubitus ulcer infection, including both superficial and deep infections

Decubitus ulcer infections must meet the following criterion:

1. Patient has at least ***two*** of the following signs or symptoms with no other recognized cause: erythema, tenderness, or swelling of decubitus wound edges,
   AND
   Organisms identified from needle aspiration of fluid or biopsy of tissue from ulcer margin by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).

SKIN-Skin infection (skin and /or subcutaneous)

Skin infections must meet at least ***one*** of the following criteria:

1. Patient has at least *one* of the following:
   - purulent drainage
   - pustules
   - vesicles
   - boils (excluding acne)
2. Patient has at least ***two*** of the following localized signs or symptoms with no other recognized cause: pain or tenderness, swelling, erythema, or heat
   And at least *one* of the following:
   a. organisms identified from aspirate or drainage from affected site by a culture or non-culture based testing method which is performed for purposes of clinical diagnosis and treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST). If organism is a common commensal (i.e., diphtheroids [*Corynebacterium* spp], *Bacillus* [not *B anthracis*] spp, *Propionibacterium* spp, coagulase-negative staphylococci [including *S epidermidis*], viridans

group streptococci, *Aerococcus* spp, *Micrococcus* spp), it must be the only organism identified.
   b. multinucleated giant cells seen on microscopic examination of affected tissue
   c. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for organism

Reporting instructions

- Do not report acne as a skin/soft tissue HAI.
- Report omphalitis in infants as UMB.
- Report infections of the circumcision site in newborns as CIRC.
- For decubitus ulcers, apply the DECU infection criteria only, not SKIN.
- Report infected burns as BURN.
- Report breast abscesses or mastitis as BRST.
- Report localized infection at a vascular access site as a VASC unless there is a positive blood culture meeting LCBI criteria, which should instead be reported as an LCBI (see VASC definition).

ST-Soft tissue infection (muscle and/or fascia [e.g., necrotizing fasciitis, infectious gangrene, necrotizing cellulitis, infectious myositis, lymphadenitis, or lymphangitis])

Soft tissue infections must meet at least ***one*** of the following criteria:

1. Patient has organisms identified from tissue or drainage from affected site by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has purulent drainage at affected site.
3. Patient has an abscess or other evidence of infection on gross anatomic or histopathologic exam.

Reporting instructions

- Report infected decubitus ulcers as DECU.
- Report infection of deep pelvic tissues as OREP.
- Report localized infection at a vascular access site as a VASC unless there is a positive blood culture then it should be reported as an LCBI (see VASC definition)

UMB-Omphalitis

Omphalitis in a newborn (≤30 days old) must meet at least ***one*** of the following criteria:

1. Patient has erythema or drainage from umbilicus
   And at least *one* of the following:
   a. organisms identified from drainage or needle aspirate by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
   b. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has erythema and purulence at the umbilicus.

Reporting instructions

- Report infection of the umbilical artery or vein related to umbilical catheterization as VASC if there is no accompanying blood culture or a blood culture is negative.
- If the patient meets criteria for LCBI, report as a LCBI (see VASC).

USI – Urinary System Infection [formerly OUTI] (kidney, ureter, bladder, urethra, or tissue surrounding the retroperitoneal or perinephric space)

Urinary system infection infections must meet at least ***one*** of the following criteria:

1. Patient has microorganisms identified from fluid (not urine) or tissue from affected site.by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST).
2. Patient has an abscess or other evidence of infection on gross anatomical exam, during invasive procedure, or on histopathologic exam.
3. Patient has ***one*** of the following signs or symptoms:
   - fever (>38.0°C)
   - localized pain or tenderness*

   And at least *one* of the following:
   a. purulent drainage from affected site
   b. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) and imaging test evidence suggestive of infection (e.g., ultrasound, CT scan, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for urinary system infection).
4. Patient ≤1 year of age has at least ***one*** of the following signs or symptoms:
   - fever (>38.0°C)
   - hypothermia (<36.0°C)
   - apnea*
   - bradycardia*
   - lethargy*
   - vomiting*

   And at least *one* of the following:
   a. purulent drainage from affected site
   b. organisms identified from blood by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (e.g., not Active Surveillance Culture/Testing (ASC/AST) and imaging test evidence suggestive of infection, (e.g., ultrasound, CT scans, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium]), which if equivocal is supported by clinical correlation (i.e., physician documentation of antimicrobial treatment for urinary system infection).

** With no other recognized cause*

Reporting instructions

- Report infections following circumcision in newborns as SST-CIRC.
- If patient meets USI criteria and they also meet UTI criteria, report UTI only, unless the USI is a surgical site organ/space infection, in which case, only USI should be reported.

REFERENCES

[1]McDonald LC, Coignard B, Dubberke E, Song, X, Horan T, Kutty PK. Recommendations for surveillance of Clostridium difficile-associated disease. *Infection Control Hospital Epidemiology* 2007; 28: 140-5.

[2]Cohen SH, Gerding DN, Johnson S, Kelly CP, Loo VG, McDonald LC, et al. Clinical practice guidelines for Clostridium difficile infection in adults: 2010 update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). *Infection Control and Hospital Epidemiology* 2010; 31:431-455.